

11004

AD-108 COMPOSITE ANODE PROCESS

Technical service consultation was provided in monthly meetings with Chatsworth to further investigate the particle composite anode concept.

Experimentally verified that 10% Al_2O_3 in a composite anode would prevent anode effect in a standard Hall or in a modified electrolyte operating around 800°C when the electrolyte contained or was fed to achieve a 1-3 wt % Al_2O_3 solubility. A record of invention was prepared.

During the second half of 83 the composite anode process was redefined as the Slurry Electrolysis Process. A 2 ka cell was designed in Tucson and thermally modeled by Dames & Moore. The cell construction was approximately 80% completed during '83. Concurrently with cell construction lab scale cells were utilized to investigate electrolyte composition, alumina feed, feeding mechanism, and inert side wall materials. A $\frac{1}{2}$ scale cold model was designed and construction began to test if a slurry of alumina could be stabilized in a standard anode-cathode configuration.